Testimony for Dr. K. George Beck

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House Natural Resources Committee
Subcommittee on Public Lands and Environmental Regulations
Oversight Hearing on Invasive Species Management on Federal Lands

1334 Longworth House Office Building
Thursday, May 16, 2013—10 a.m.

Chairman Bishop, Ranking Member Grijalva, members of the subcommittee, thank you for the opportunity to testify before you today. My name is Dr. George Beck and I am a professor of weed science at Colorado State University. I am appearing before you today representing the Healthy Habitats Coalition, a diverse coalition of land managers, conservation organizations, private companies, and academics such as myself, focused on how local management is the best practice for natural resources management including invasive species. I would like to walk you through the growing problem related to invasive species as well as some of the research HHC has conducted on dollars spent to control and manage invasive species.

Invasive species overview and situation to date

Invasive species is an insidious and occasionally sinister economic and environmental issue – it is not new. Canada thistle, for example, was first declared noxious in the United States in 1795 in Vermont. A little overgrazing by one user, in this instance, opened the door for invasion of the common area by Canada thistle, which in turn decreased everyone else's ability to raise the sustenance needed to survive. It was the tragedy of the commons where one person's use of the environment influenced the next person's use and invasive species continue to plague us in this fashion to this day.

In the 1980s, many western states public and private land managers were highly dissatisfied with how Federal land management agencies were managing noxious and invasive weeds. The Intermountain Noxious Weed Advisory Council (INWAC) was formed in 1987. INWAC was a grass roots organization whose goal was to educate Federal Agency decision makers and Congress about the problems associated with noxious and invasive weeds and the need for much enhanced management by Federal Agencies in particular. In 1990, INWAC helped write and secure passage of Section 2814 of the Federal Noxious Weed Act, which requires all Federal Agencies to manage noxious weeds in cooperation with state and local governments. Furthermore, the law specifically requires that any National Environmental Policy Act (NEPA) assessment that must be produced be completed within one year and Section 2814 presently remains the law of the land. Some Federal Agencies have not yet complied with Section 2814.

In 1996, INWAC along with several noted invasive species scientists from across the U.S. met with President Bill Clinton's Science Advisors to voice their dissatisfaction with the management of invasive species by Federal Agencies. The Administration at that time disagreed but a letter of protest about invasive species management in the U.S signed by 500 scientists was an outcome of that meeting and found its way to the highest Administrative offices. As a result, Executive Order 13112 was issued by President Clinton in 1999. The National Invasive Species Council (NISC) was formed, which was comprised of eight of the President's Cabinet Secretaries and co-chaired by the Secretaries of Agriculture, Commerce, and Interior. E.O.

13112 created the Invasive Species Advisory Committee (ISAC) which along with NISC staff created all the National Invasive Species Management Plans over the past 13 years. ISAC also wrote and published a guidance paper for all Federal Agencies clearly defining what constitutes an invasive species – i.e., what is, and just as importantly, what is not an invasive species (see Addendum).

The National Invasive Weed Awareness week in Washington D.C. started in 2001 and evolved recently into the National Invasive Species Awareness Week. The goal was to heighten the awareness about invasive species among Federal Agency decision makers and members of Congress. We were successful and our elected leaders in particular understand that invasive species indeed is an insidious issue albeit, a competing priority that has fallen short of the action that is clearly needed.

Current status and necessary steps to take:

In spite almost three decades of work with the federal government to control and manage invasive species, little progress has been made and what progress that has occurred is grossly insufficient on a national scale. A multitude of taxa require our immediate management attention; zebra and quagga mussels, New Zealand mudsnails, Burmese pythons, feral hogs, emerald ash borers, gypsy moths, Asian carp, snakehead fish—the list of invasive species is long but manageable. The Healthy Habitat Coalition's collective experience, however, is with invasive weeds and we will focus on the continued growth of various weed species and the need for better control and management measures on lands and waterways throughout the country. The data in Table 1 outline the amount of infested acres, the amount of acres treated, and the increase of infested acres for the six major Federal Agencies who have jurisdiction over invasive species.

AGENCY (Big 6)	Infested Acres	Treated & restored acres	Percent T&R	New Acres Annually **	Total Net Infested Acres
BLM	35,000,000	375,000	1.1%	4,155,000	38,780,555
USFS	7,000,000	390,000	5.6%	793,200	7,403,200
NPS	2,600,000	66,000	2.5%	304,080	2,838,080
DOD*	2,500,000	200,000	8%	276,000	2,576,000
APHIS	81,709	27,805	34%	6,469	60,372
FWS	2,300,000	345,000	15%	234,600	2,189,600
Others	Not available	200,000	Not available	Not available	-
Totals	49,481,709	1,603,805	3.2%	5,769,349	53,847,807

Table 1. Magnitude of Federal Agency invasive weed management FY09; above data provided to Healthy Habitats Coalition directly from Federal Agencies.

These data clearly show that only 3.2 percent of existing acres infested with invasive weeds were treated and restored in 2009. Weed scientists indicate that a typical rate of spread for weeds is 12 to 16 percent annually (Duncan and Clark 2005). Treating and restoring only 3.2 percent of infested acres annually coupled with a 12 percent increase indicates that the FY09 infested acres on Federally managed lands will double by 2017 and will surpass 100 million acres by 2018 (Table 2). Because the rate of invasive weed spread apparently is not recognized or at least accounted for, Federal Agencies are acquiring 3.5 times more acres of invasive weeds annually than they are treating and restoring. This is a plan that decidedly will never be successful and will continuously produce more and more infested acres thus, preventing realization of land management goals and objectives. Just as importantly, these ever-expanding acres of invasive weeds on federally managed lands will serve as a constant source of propagules to disperse to neighboring lands and those distant to the infested site! HHC recommends that Federal Agencies treat and restore at least 15 percent of their infested acres annually to successfully decrease acres of invasive weeds on lands they manage on behalf of the American public. Additionally, our nation must create a borderless collaboration among Federal Agencies, states and their land management agencies, private enterprise, and private land owners and land managers for invasive species management. Invasive species do not recognize political borders and we must overcome the barriers that prevent borderless collaboration to be successful.

Year	Elapsed Years	Beginning Infested Acres	Acres Treated & Restored (3.2% of Begin)	Infested Acres After Treatment	12% Annual increase	Year End Infested Acres
2009	1	49.48	- 1.60	= 47.88	+ 5.75	= 53.63
2010	2	53.63	- 1.74	= 51.89	+ 6.23	= 58.12
2011	3	58.12	- 1.89	= 56.23	+ 6.75	= 62.98
2012	4	62.98	- 2.04	= 60.94	+ 7.31	= 68.25
2013	5	68.25	- 2.21	= 66.04	+ 7.92	= 73.96
2014	6	73.96	- 2.40	= 71.56	+ 8.59	= 80.15
2015	7	80.15	- 2.60	= 77.55	+ 9.31	= 86.86
2016	8	86.86	- 2.81	= 84.05	+ 10.09	= 94.14
2017	9	94.14	- 3.05	= 91.09	+ 10.93	= 102.02
2018	10	102.02	- 3.31	= 98.71	+ 11.85	= 110.56

Table 2. Performance assessment of invasive weed management by Federal Agencies over a 10-year period.

FY09 NISC budget:

The National Invasive Species Council staff assembled an annual “invasive species budget” by collecting data from Federal Agencies and placing that information into one of seven categories that are associated with the National Invasive Species Management Plan. In FY09, the federal government spent $1.563 billion (Figure 1) on invasive species stating that $642 million was spent on control and management, which is one of the NISC budget categories. HHC members have years of experience helping to design weed management strategies and systems and our calculations differ substantially from the federal data. From Table 1, Federal Agencies indicate they treated and restored 1,603,805 acres infested with invasive weeds in FY09. Our calculations suggest the following when Early Detection and Rapid Response (EDRR) is budgeted at $1000/acre, restoration at $300/acre, and control with a herbicide at $100/acre:

$291,000,000 spent on EDRR ÷ $1000/acre = 291,000 acres EDRR treated;

$50,520,000 spent on restoration ÷ $300/acre = 168,400 acres restored;

1,603,805 acres – 291,000 EDRR treated-acres – 168,400 acres restored = 1,143,505 acres remaining for direct weed control. Calculating at $100/acre to control invasive weeds with a

herbicide equates to $114,350,500 spent by Federal Agencies to decrease their population abundance, which is the first logical step in any weed management system. Based on HHC calculations, far less appears to have been spent on control and management than the data stated by the Federal Agencies (Figure 2).

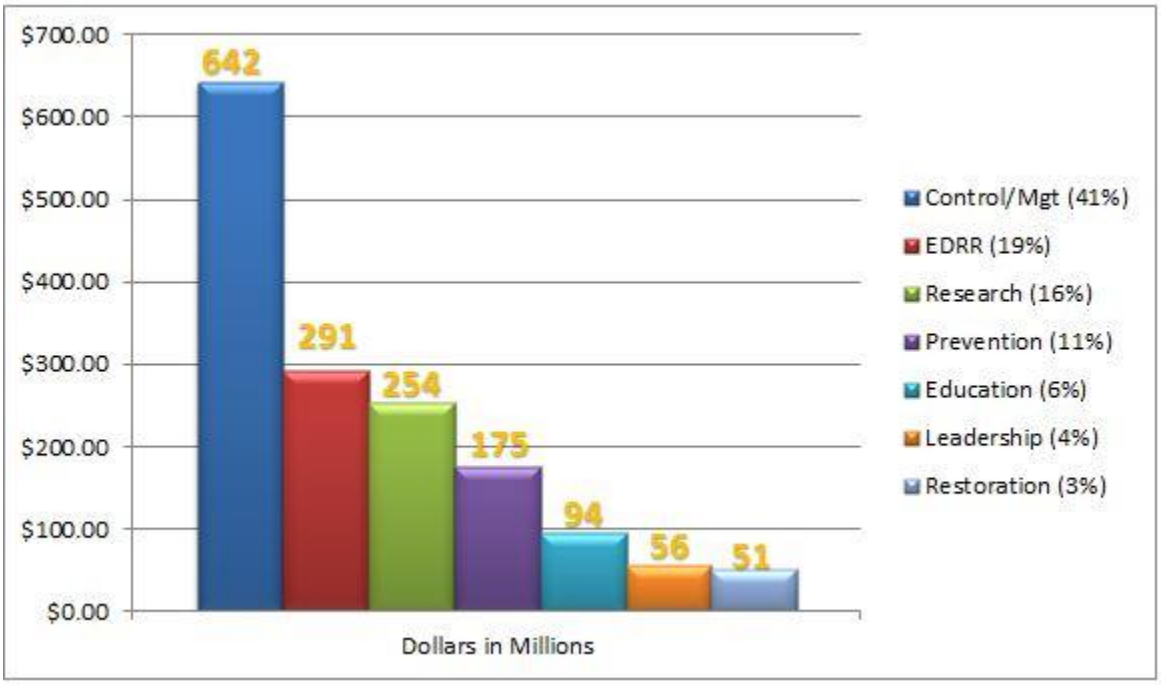

Figure 1. NISC FY09 invasive species budget.

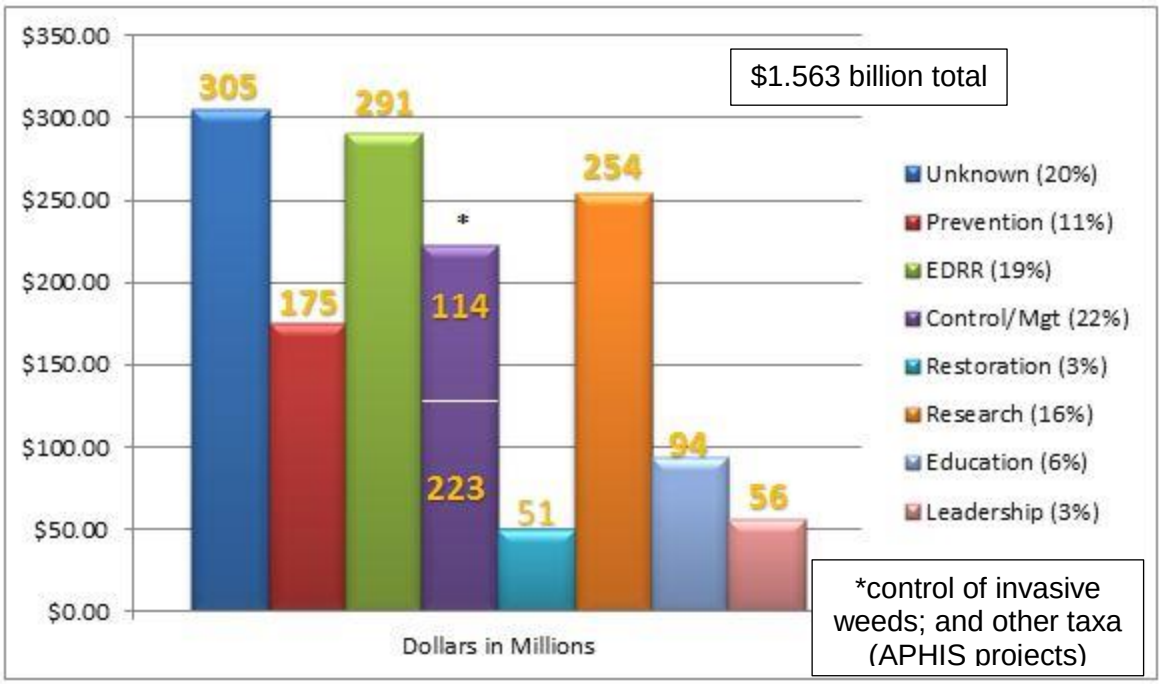

Figure 2. HHC's recalculated NISC budget impacts based on average cost analysis.

APHIS projects to control invasive insects and taxa other than invasive weeds comprise about two-thirds of the control and management budget categories. There remains about $305 million that cannot be readily placed into one of the NISC budget categories and it is highly likely that Federal Agencies are spending more per acre to control invasive weeds than is necessary because they are not using the most cost-efficient tools and have high labor expenses.

Solution to Federal Agency performance managing invasive weeds:

Year	Elapsed Years	Beginning Infested Acres	Acres Treated & Restored (15% of Begin)	Infested Acres after treatment	12% Annual increase	Year End Infested Acres
2009	1	49.48	- 7.42	= 42.06	+ 5.1	= 47.16
2010	2	47.16	- 7.07	= 40.09	+ 4.81	= 44.90
2011	3	44.90	- 6.73	= 38.17	+ 4.57	= 42.74
2012	4	42.74	- 6.40	= 36.34	+ 4.35	= 40.69
2013	5	40.69	- 6.10	= 34.59	+ 4.15	= 38.74
2014	6	38.74	- 5.80	= 32.94	+ 3.95	= 36.89
2015	7	36.89	- 5.53	= 31.36	+ 3.76	= 35.12
2016	8	35.12	- 5.26	= 29.86	+ 3.58	= 33.44
2017	9	33.44	- 5.01	= 28.42	+ 3.41	= 31.83
2018	10	31.83	- 4.77	= 27.06	+ 3.25	= 30.30

Table 3. A positive outcome if Federal Agencies treat and restore at least 15 percent of acres infested with invasive weeds annually.

Federal Agencies must treat and restore at least 15 percent of existing infested acres in any given year to overcome their management deficit to date (Table 3). Table 3 is similar to Table 2 but is based upon treating and restoring 15 percent of infested acres annually. Within 10 years, 19.2 million acres would be treated and restored, which represents a 39 percent decrease of acres infested with invasive weeds on federally managed lands as opposed to their current thrust where over 100 million new acres would be infested (Table 2) over the same time period! In addition to treating and restoring many more acres annually than Federal Agencies currently do, they also must be more efficient and effective with taxpayer dollars. A paper addressing this issue is included in the addendum.

Invasive species management by Federal Agencies:

It is abundantly clear that the management of invasive species by Federal Agenciesis not sufficient to slow the growing problem. The very nature of invasive species is to increase their populations in their new home seemingly without bounds until habitats are saturated (Figure 3). Invasive species management is not an option.

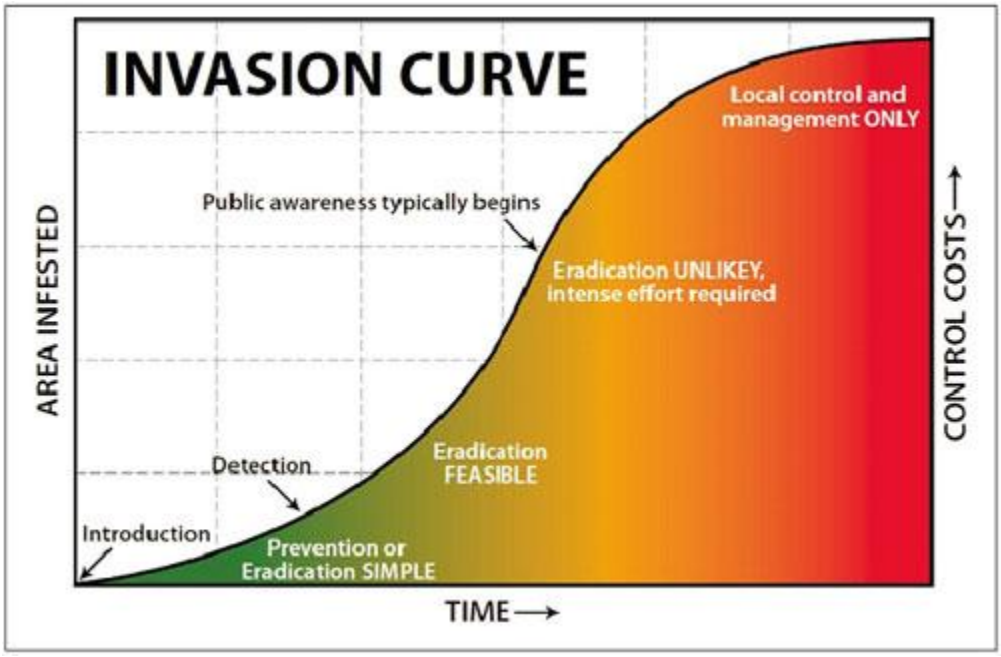

Figure 3. Typical population growth curve for invasive species.

Many university professors with extension appointments have spent considerable time over the past 25 years educating and training the federal land management workforce about invasive weeds and their management. To be sure, there are some shinning lights within the federal system with regard to invasive species management. For example, The US Fish and Wildlife Service spent about 42 percent of their FY09 “invasive species budget” to control and manage invasive species and the National Park Service spent 100 percent of their FY09 “invasive species budget” on control and management, and the majority of these monies were spent on invasive weeds. So it is clear that if an Agency or Department desires to manage all taxa associated with this insidious problem, they can do so! The Healthy Habitats Coalition has a proposed solution to our national invasive species problem, but it will take Congress, the States, local governments, Federal land managers, private enterprise, and private landowners working together to implement a solution. The time for action is upon us—we must stop kicking this can down the road!

Chairman Bishop, Ranking Member Grijalva, thank you again for the opportunity to testify at today’s hearing and present the facts related to invasive species. I am happy to answer any questions.